I claim:

1. A polymer sheet comprising:

a polymeric layer; and,

a plurality of domains distributed throughout said polymeric layer, wherein said domains comprise an agent that causes an alteration in the amount of visible light that can be transmitted through said polymer sheet in response to the application of an electric field to said polymer sheet.

2. The polymer sheet of claim 1, wherein said domains are in the form of a microcapsule.

3. The polymer sheet of claim 2, wherein said microcapsule comprises a dielectric material encapsulated in a polymeric coating, and wherein said agent is disposed in said dielectric material.

4. The polymer sheet of claim 3, wherein said polymeric coating comprises a polymer selected from the group consisting of poly(vinyl butyral), gelatin, polyvinyl alcohol, cellulosic dierivatives, aciacia, carageenan, hydroxylate stryrene anhydride copolymers, methyl vinyl ether co-maleic anhydride, polyvinyl pyridine, polyacrylonitrile, polystyrene, poly(methyl methacrylate), poly(butyl methacrylate), polyhydroxy amide with aldehyde, melamine formaldehyde, urea formaldehyde, water soluble oligomers of the condensate of melamine, water soluble oligomers of urea, water soluble oligomers of formaldehyde, styrene, methyl methacrylate, acrylonitrile, diacyl chloride, vinyl acetate, acrylic acid, butyl acrylate, and t-butyl acrylate.

5. The polymer sheet of claim 3, wherein said dielectric material is selected from the group consisting of a low molecular weight poly(chlorotrifluoroethylene), perfluorinated polyether, aliphatic hydrocarbons, triethylene glycol bis(2-ethyl hexanoate), and a mixture of triethylene glycol (2-ethyl hexanoate) and triethylene glycol bis(2-ethyl hexanoate).

6. The polymer sheet of claim 1, wherein said agent is selected from the group consisting of anatase titania, rutile titania, barium sulfate, silica, magnesium silicate, calcium carbonate, indium tin oxide, antimony tin oxide, carbon black, zinc oxide, lanthanum hexaboride, gold, silver, copper, platinum, palladium, and alloys of the foregoing.

7. The polymer sheet of claim 1, wherein said agent is selected from the group consisting of titania, silica, carbon black, gold, and silver.

8. The polymer sheet of claim 1, wherein said application of an electric field causes said agent to agglomerate.

9. The polymer sheet of claim 1, wherein said polymeric layer comprises poly(vinyl butyral).

10. The polymer sheet of claim 9, wherein said polymeric layer further comprises a plasticizing agent.

11. A multiple layer glass panel, comprising:

a first layer comprising,

a polymeric layer; and,

a plurality of domains distributed throughout said polymeric layer, wherein said domains comprise an agent that causes an alteration in the amount of visible light that can be transmitted through said first layer in response to the application of an electric field to said first layer;

a second layer comprising an electrically conductive polymeric sheet disposed in contact with said first layer; and,

a third layer comprising an electrically conductive polymeric sheet disposed in contact with said first layer opposite said second layer.

12. The multiple layer glass panel of claim 11, wherein said domains are in the form of a microcapsule.

13. The multiple layer glass panel of claim 12, wherein said microcapsule comprises a dielectric material encapsulated in a polymeric coating, and wherein said agent is disposed in said dielectric material.

14. The multiple layer glass panel of claim 13, wherein said polymeric coating comprises a polymer selected from the group consisting of poly(vinyl butyral), gelatin, polyvinyl alcohol, cellulosic dierivatives, aciacia, carageenan, hydroxylate stryrene anhydride copolymers, methyl vinyl ether co-maleic anhydride, polyvinyl pyridine, polyacrylonitrile, polystyrene, poly(methyl methacrylate), poly(butyl methacrylate), polyhydroxy amide with aldehyde, melamine formaldehyde, urea formaldehyde, water soluble oligomers of the condensate of melamine, water soluble oligomers of urea, water soluble oligomers of formaldehyde, styrene, methyl methacrylate, acrylonitrile, diacyl chloride, vinyl acetate, acrylic acid, butyl acrylate, and t-butyl acrylate.

15. The multiple layer glass panel of claim 13, wherein said dielectric material is selected from the group consisting of a low molecular weight poly(chlorotrifluoroethylene), perfluorinated polyether, aliphatic hydrocarbons, triethylene glycol bis(2-ethyl hexanoate), and a mixture of triethylene glycol (2-ethyl hexanoate) and triethylene glycol bis(2-ethyl hexanoate).

16. The multiple layer glass panel of claim 11, wherein said agent is selected from the group consisting of anatase titania, rutile titania, barium sulfate, silica, magnesium silicate, calcium carbonate, indium tin oxide, antimony tin oxide, carbon black, zinc oxide, lanthanum hexaboride, gold, silver, copper, platinum, palladium, and alloys of the foregoing.

17. The multiple layer glass panel of claim 11, wherein said agent is selected from the group consisting of titania, silica, carbon black, gold, and silver.

18. The multiple layer glass panel of claim 11, wherein said application of an electric field causes said agent to agglomerate.

19. The multiple layer glass panel of claim 11, wherein said polymeric layer comprises poly(vinyl butyral).

20. The multiple layer glass panel of claim 19, wherein said polymeric layer further comprises a plasticizing agent.

21. The multiple layer glass panel of claim 11, wherein said polymeric sheet of said second layer comprises polyethylene terephthalate.

22. The multiple layer glass panel of claim 21, wherein said polyethylene terephthalate is coated with an electrically conductive material selected from the group consisting of indium tin oxide, antimony tin oxide, indium zinc oxide, metallic coatings, polyaniline, and a conductive polymer.

23. The multiple layer glass panel of claim 11, wherein said polymeric sheet of said third layer comprises polyethylene terephthalate.

24. The multiple layer glass panel of claim 23, wherein said polyethylene terephthalate is coated with an electrically conductive material selected from the group consisting of indium tin oxide, antimony tin oxide, indium zinc oxide, metallic coatings, polyaniline, and a conductive polymer.

25. The multiple layer glass panel of claim 11, further comprising a fourth layer comprising poly(vinyl butyral) disposed in contact with said second layer.

26. The multiple layer glass panel of claim 25, further comprising a fifth layer comprising poly(vinyl butyral) disposed in contact with said third layer.

27. The multiple layer glass panel of claim 26, further comprising a sixth layer of glass disposed in contact with said fourth layer and a seventh layer of glass disposed in contact with said fifth layer.

28. A multiple layer glass panel, comprising:

a first layer comprising an electrically conductive polymeric sheet; and,

a second layer comprising an electrically conductive polymeric sheet;

wherein said first layer and said second layer are bonded together by a binder comprising a plurality of domains distributed throughout said binder, wherein said domains comprise an agent that causes an alteration in the amount of visible light that can be transmitted through said glass panel in response to the application of an electric field to said binder.

29. The multiple layer glass panel of claim 28, wherein said domains are in the form of a microcapsule.

30. The multiple layer glass panel of claim 29, wherein said microcapsule comprises a dielectric material encapsulated in a polymeric coating, and wherein said agent is disposed in said dielectric material.

31. The multiple layer glass panel of claim 30, wherein said polymeric coating comprises a polymer selected from the group consisting of poly(vinyl butyral), gelatin, polyvinyl alcohol, cellulosic dierivatives, aciacia, carageenan, hydroxylate stryrene anhydride copolymers, methyl vinyl ether co-maleic anhydride, polyvinyl pyridine, polyacrylonitrile, polystyrene, poly(methyl methacrylate), poly(butyl methacrylate), polyhydroxy amide with aldehyde, melamine formaldehyde, urea formaldehyde, water soluble oligomers of the condensate of melamine, water soluble oligomers of urea, water soluble oligomers of formaldehyde, styrene, methyl methacrylate, acrylonitrile, diacyl chloride, vinyl acetate, acrylic acid, butyl acrylate, and t-butyl acrylate.

32. The multiple layer glass panel of claim 30, wherein said dielectric material is selected from the group consisting of a low molecular weight poly(chlorotrifluoroethylene), perfluorinated polyether, aliphatic hydrocarbons, triethylene glycol bis(2-ethyl hexanoate), and a mixture of triethylene glycol (2-ethyl hexanoate) and triethylene glycol bis(2-ethyl hexanoate).

33. The multiple layer glass panel of claim 28, wherein said agent is selected from the group consisting of anatase titania, rutile titania, barium sulfate, silica, magnesium silicate, calcium carbonate, indium tin oxide, antimony tin oxide, carbon black, zinc oxide, lanthanum hexaboride, gold, silver, copper, platinum, palladium, and alloys of the foregoing.

34. The multiple layer glass panel of claim 28, wherein said agent is selected from the group consisting of titania, silica, carbon black, gold, and silver.

35. The multiple layer glass panel of claim 28, wherein said application of an electric field causes said agent to agglomerate.

36. The multiple layer glass panel of claim 28, wherein said polymeric sheet of said first layer comprises polyethylene terephthalate.

37. The multiple layer glass panel of claim 36, wherein said polyethylene terephthalate is coated with an electrically conductive material selected from the group consisting of indium tin oxide, antimony tin oxide, indium zinc oxide, metallic coatings, polyaniline, and a conductive polymer.

38. The multiple layer glass panel of claim 28, wherein said polymeric sheet of said second layer comprises polyethylene terephthalate.

39. The multiple layer glass panel of claim 38, wherein said polyethylene terephthalate is coated with an electrically conductive material selected from the group consisting of

indium tin oxide, antimony tin oxide, indium zinc oxide, metallic coatings, polyaniline, and a conductive polymer.

40. The multiple layer glass panel of claim 28, wherein said binder comprises a member selected from the group consisting of water-soluble polymers, water-borne polymers, oil-soluble polymers, thermoset polymers, thermoplastic polymers, and radiation-cured polymers.

41. The multiple layer glass panel of claim 28, further comprising a third layer comprising poly(vinyl butyral) disposed in contact with said first layer.

42. The multiple layer glass panel of claim 41, further comprising a fourth layer comprising poly(vinyl butyral) disposed in contact with said second layer.

43. The multiple layer glass panel of claim 42, further comprising a fifth layer of glass disposed in contact with said third layer and a sixth layer of glass disposed in contact with said fourth layer.

44. A method of reducing light transmission through an opening, comprising:

providing a multiple layer glass panel in said opening, wherein said multiple layer glass panel comprises a first layer comprising,

a polymeric layer; and,

a plurality of domains distributed throughout said polymeric layer, wherein said domains comprise an agent that causes a reduction in the amount of visible light that can be transmitted through said first layer in response to the application of an electric field to said first layer;

a second layer comprising an electrically conductive polymeric sheet disposed in contact with said first layer; and,

a third layer comprising an electrically conductive polymeric sheet disposed in contact with said first layer opposite said second layer; and,

connecting a voltage source to said second layer and said third layer, thereby generating an electric field across said first layer.

45. The method of claim 44, wherein the extent to which said light transmission is reduced is dependent in part on the duration of application of said voltage source.

46. A method of reversibly reducing light transmission through an opening, comprising:

providing a multiple layer glass panel in said opening, wherein said multiple layer glass panel comprises a first layer comprising,

a polymeric layer; and,

a plurality of domains distributed throughout said polymeric layer, wherein said domains comprise an agent that causes an alteration in the amount of visible light that can be transmitted through said first layer in response to the application of an electric field to said first layer;

a second layer comprising an electrically conductive polymeric sheet disposed in contact with said first layer; and,

a third layer comprising an electrically conductive polymeric sheet disposed in contact with said first layer opposite said second layer;

connecting a voltage source to said second layer and said third layer, thereby generating an electric field across said first layer; and,

reversing the polarity of said voltage source to said second layer and said third layer, thereby reversing said electric field.

47. A multiple layer glass panel comprising:

a first glass layer having an electrically conductive coating;

a second glass layer having an electrically conductive coating;

a polymeric layer disposed between said first glass layer and said second glass layer; and,

a plurality of domains distributed throughout said polymeric layer, wherein said domains comprise an agent that causes an alteration in the amount of visible light that can

be transmitted through said polymer layer response to the application of an electric field to said polymer layer.

48. A multiple layer glass panel, comprising:

a first glass layer having an electrically conductive coating;

a second glass layer having an electrically conductive coating;

wherein said first glass layer and said second glass layer are bonded together by a binder comprising a plurality of domains distributed throughout said binder, wherein said domains comprise an agent that causes an alteration in the amount of visible light that can be transmitted through said glass panel in response to the application of an electric field to said binder.